grounds for rejection. Applicant has placed its case in condition for allowance. A Notice of Allowance should now issue.

Claim Rejection - 35 U.S.C. § 112, Items 4-8 of Action

The Action rejects claims 3 and 5-6 under 35 U.S.C. § 112. The Action indicates that Applicant's use of the phrase "said pocket" in the noted claims is indefinite. Applicant has amended claims 1-3 and 5-6 to read "said at least one pockets". The 35 U.S.C. § 112 rejection, second paragraph, to the claims, should be withdrawn.

Claim Rejections- 35 U.S.C. § 102, Items 9 & 10 of Action

The Action rejects claims 1-2, and 4 as being anticipated by Guilleaume (Pat. Num. 514,925). The Action bases its rejection, in part, on an assertion that Guilleaume discloses "a cable separator spline". In order for a reference to disclose a claimed element under § 102, the reference must specifically disclose the element. Guilleaume does not show a "cable separator spline". Guilleaume is not directed towards a multiple cable system. Guilleaume makes it clear it is directed towards a cable which insulates component wires of the cable from each other. Guilleaume discloses, insulating material C, to insulate component wires from one another. *See Guilleaume, Claim 1, Lines 30-31, Claim 2, Lines 58-63.*

The uninsulated component wires of Guilleaume do not form cables inside the separator. Therefore, insulating material C does not form a cable separator. Webster's dictionary defines a cable as "wires having insulation". Applicant's amendment, which inserts the phrase, "twisted pair" reinforces the importance of Applicant's use of the word "cable" in claim 1. The 35 U.S.C. § 102 rejection to the claims should be withdrawn.

Claim Rejecti n- 35 U.S.C. § 103 (a), Item 12 f Acti n

The Action rejects claims 3 and 5-6 as being unpatentable (obvious) over Guilleaume. The Action acknowledges that Guilleaume does not disclose pockets having a cross sectional area which is 75% or less than the cross sectional of a circular envelope of the cable to be placed in the pocket. Additionally, the Examiner acknowledges that Guilleaume does not have first and second pockets having a depth greater than the depth of the third and fourth pockets. To support its contention that the variances in depth are obvious, the Action states "arranging Guilleaume to comprise first and second pockets having a depth greater than the depth of the third and fourth pockets is obvious as it is a mere change of form or rearrangement. The Examiner also asserts that Applicant's choice of the 75% ratio is a mere optimization involving only routine skill.

Applicant disagrees with the Examiner's conclusions. Assuming arguendo, *In re Aller* decided on March 22, 1955, and presently relied on by the Examiner, properly considers recent criteria for obviousness, it does not support the Examiner's position. In fact, the cited case and other cases which concern the mere optimization rule make it clear that Applicant's 75% ratio does not qualify as a mere optimization over the cited art. Additionally, Applicant's recitation in claim 6 that the second pockets have a depth greater than the third and fourth pockets is not a mere change of form. Applicant's recitation in affect, claims a ratio between the depths which is greater than one. Thus, the limitation should be considered under the optimization rule. In order to establish a *prima-facie* case of obviousness under the mere optimization rule, the Examiner must demonstrate how the prior art makes it well known that the claimed relationship has importance. Additionally, the Examiner must show how the prior art teaches the means to achieve the optimal condition.

The case of *In re Antonie 195 U.S.P.Q. 6,8 (C.C.P.A. 1977)*, exemplifies application of the optimization rule. In Antonie, Applicant claimed a waste water treatment device. The Applicant claimed a ratio of tank volume to contactor area of 12 gallons/sq.ft.[3] The Examiner rejected the ratio as a mere optimization relying on *In re Aller*. The C.C.P.A. acknowledged that the prior art taught efficiency of treatment can be increased by increasing the area of the contactor. The C.C.P.A., however, noted that the disclosure failed to demonstrate that the prior art recognized that the particular claimed ratio affected the result. The C.C.P.A. specifically held that an Examiner must establish, prior to relying on the mere optimization rule, that the prior art establishes that the importance of the claimed ratio is well known.

The Court, in *In Re Rijckaert 9 f 3d 1531 (Fed. Cir. 1993)*, also outlines the facts one must establish prior to applying the mere optimization rule. Rijckaert concerned an application directed towards an apparatus for recording and reproducing an electric signal on a magnetic record carrier. The Court completely rejected the optimization argument noting that the prior reference failed to show the importance of the claimed ratio was in fact, well known. Additionally, the reference failed to show the means to achieve the optimal condition. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

In the present case, as in Antonie and Rijckaert, the relied on reference does not disclose that the particular parameters affect the results. Additionally, the cited reference does not disclose a means to achieve the optimal condition. The reference could not disclose these features because the cited reference does not disclose any features to allow one to even consider the ratios claimed by Applicant. Guilleaume lacks direction and teaching towards insulated twisted pairs, controlling cross talk between twisted pairs, utilizing splines to control cross talk between twisted pairs,

utilizing pocket size of splines to control cross talk between twisted pairs, and utilizing the ratio between pocket area and envelope area to control cross talk between twisted pairs. Further, Guilleame has zero teaching or suggestion to indicate that the pocket depth ratio, claim 6, can improve skew (match conductor lengths). As Guilleaume does not have parameters directed towards Applicant's claimed ratios, Guilleaume does not make obvious the claimed ratio. The rejection to claims 3, 5, and 6 should be withdrawn.

Applicant's combination provides synergistic advantages over prior art:

The references are also deficient because in combination, they have no teaching or suggestion that a twisted pair cable is to be placed in the pockets. Applicant uses its oval shaped spline, i.e., a spline having a major and minor axis in connection with twisted pairs. The twisted pairs are disposed in the pockets. The combination produces advantages and results not found in the prior art, and is thus not obvious. Courts have long agreed that combinations which produce synergistic undisclosed advantageous results produce unexpected benefits and deserve a patent. See *In re Wright, 848 F.2d 1216: (Court held a level with a barrel-shaped vial non-obvious. The Court noted both the existence of the level and the barrel-shaped vial in the prior art. The Court, however, noted note of the prior art suggested the results claimed by the invention. The Court explained that obviousness requires considering the invention as a whole, including the invention's advantages. The unexpected advantage demonstrates that the invention overall is non-obvious.*

The synergistic advantages of Applicant's cable include:

(1) Maximum cable separation in trays for reduced alien cross talk at higher frequencies;

(2) Equalizing attenuation differences between the longest and shortest pair lengths in the cable by optimally orientating the long and short lay length pairs: Optimization occurs by having the long lay pairs on the "major" axis and short lay pairs on the "minor" axis. The major axis increases the amount of long pair lay UTP's in the cable and the minor axis decreases the amount of short pair lay UTP's in the cable;

(3) Reducing cross talk by having the longest pair lays being separated along the major spline's axis and the short lay pairs located along the minor-cable axis;

(4) Reducing attenuation by reducing contact between short lay twisted pairs and the outer jacket: By placing the short lay pairs along the minor axis of the cables, less jacket material is in contact with the short lay pairs. The longer lay pairs, which have the benefit of shorter conductor lengths, are placed along the major axis where a greater degree of cable jacket contact takes place;

(5) Reducing SKEW, or the first to last signal arrival time differential, with any given lay set. Reduced SKEW occurs because the dual cabling axis (major axis and minor axis) places more conductors per unit length along the long lay pairs to help equalize the amount of wire relative to the short lay pairs during overall cabling. Conversely, the short lay pairs are placed across the minor axis to reduce the amount of wire added during the overall cable operation;

(6) Reducing the conductor diameter previously associated with longer pair lays, while achieving the same level of NEXT and attenuation previously only achievable through "larger" conductor diameters.

Claims 3, 5, and 6 are depended on claim 1. As claim 1 is allowable, the dependant claims are also allowable for this reason.

Priority Items 1-3 f Acti n

Applicant disagrees that its claim of the major and minor access requires a new declaration. The parent application specifically disclosed a spline having a cross section with a major and minor access. *See Figure 2 of Patent 6,297,454 B1 and corresponding spec.* The rules make it clear that the disclosure demonstrates Applicant had possession of this part of the invention at the time it filed its application. Thus, no new oath is needed.

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Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

At page 1, before the field of invention section, add as a new first paragraph, the following:

--The present application is a continuation of application 09/452,702, filed December 2, 1999, now Patent 6,297,454 B1.--

At page 4, the second paragraph, line 5, should be amended as follows:

Referring to FIGURES 1 and 2, my elongated separator spline 20 has along its cross-sectional plane a major axis 21 and a minor axis 22. In the preferred embodiment, the minor axis 22 is perpendicular to the major axis 21. The preferred elongated separator spline 20 is shown with four cable pockets 23, 24, 26, and 27. Other oval configurations could have more ~~all~~ or less pockets. The pockets 23 and 24 are on the major axis 21 and pockets 27 and 26 are on the minor axis 22. In a preferred embodiment, pockets 23 and 24 have the same cross-sectional area as each other and pockets 26 and 27 have the same cross-sectional area as each other. If desired, they can all have the same cross-sectional area. The cross-sectional area of the pockets [as] are shown in FIGURE 3. These are indicated by the shaded areas 28 and 29.

IN THE CLAIMS:

1. A twisted -pair cable separator spline comprising:

a longitudinally extending spline having a plurality of spaced longitudinally extending open pockets,

a cross-section of said spline having a major axis and a minor axis,

at least one pocket being on the major axis, and

at least one pocket being on the minor axis ,and

wherein said major axis has a length greater than a length of said minor axis.

2. The spline of claim 1 wherein,

said major axis is substantially perpendicular to said minor axis, and

each of said at least one pockets longitudinally extending substantially parallel to each other.

3. The spline of claim 2 wherein,

each of said at least one pockets have a cross-sectional area which is 75 % or less than a cross-sectional area of a circular envelope of a twisted-pair cable to be placed in said at least one pockets.

5. The spline of claim 4 wherein,

said major axis is substantially perpendicular to said minor axis,

said third and fourth pockets having substantially the same cross-sectional area,

said first, second, third, and fourth pockets longitudinally extending substantially parallel to each other, and

each of said at least one pockets have a cross-sectional area which is 75 % or less than a cross-sectional area of a circular envelope of a twisted-pair cable to be placed in said at least one pockets.

6. The spline of claim 5, wherein

said first and second pockets having a depth greater than a depth of said third and fourth pockets, and

each of said at least one pockets have a cross-sectional area of about 25% to 75 % the cross-sectional area of the circular envelope of the twisted-pair cable to be placed in said at least one pockets.